



Opportunities for Threatened, Endangered and Sensitive Species Conservation, 2008

USDA Forest Service

INTRODUCTION

Some 425 federally threatened & endangered (T&E) species and 3,250 Forest Service designated sensitive species (S) use and depend upon habitats on many of the 193 million acres of National Forests and Grasslands across the nation. Because of this the Forest Service has very significant responsibilities to contribute to the recovery of T&E species and to the conservation of sensitive species and their habitats. The Forest Service works to ensure that TES species remain productive, diverse, and viable components of sustainable ecosystems for the benefit of society, now and into the future.

The Forest Service has taken steps to more fully integrate the various components of the Wildlife, Fish and Threatened, Endangered and Sensitive Species programs with other agency resource management goals and objectives. The integration of budgets and organizations in these areas contributes to the accomplishment of long-term goals and objectives identified in the Government Performance and Results Act and Forest Service Strategic Plan.

THREATENED, ENDANGERED AND SENSITIVE (TES) SPECIES AND HABITAT MANAGEMENT

The Forest Service's vision for TES species management includes working with partners to manage habitats to conserve and help recover TES species. The use of the best available scientific information, integration of resource objectives, sound decision-making and partnerships will continue to be cornerstones of the Forest Service TES program. Forest Service fisheries biologists, wildlife biologists, botanists, ecologists, other staff and line officers work to improve the quality of habitat conditions for TES species.

They use many activities to implement the **Threatened, Endangered and Sensitive Species Program**: vegetation treatments, such as thinning and regenerating forests, planting, and use of prescribed fire; structural improvements, such as nest sites and stream structures; conducting inventories and needed studies; species reintroductions; recreation and travel management; developing and implementing conservation assessments, strategies, and plans to benefit TES species - particularly with other

partners that have similar objectives in a given ecosystem; and facilitating public use of TES resources, such as through nature study and conservation education activities.

The Forest Service's TES Program supports the Forest Service Mission and Goals by achieving these Objectives:

1. Protect and enhance habitats to help recover T&E species, conserve Sensitive species,
2. Contribute to the conservation of ecosystems on which TES and other wildlife, fish and plant species depend,
3. Provide useful and credible information to decision-makers, partners and others,
4. Provide opportunities to view and enjoy TES species and their habitats,
5. Maintain and developing partnerships in TES species and habitat conservation,
6. Support and integrate with other Forest Service natural resource management efforts, including (but not limited to) watershed, recreation, fire and fuels, range, minerals, forest management, research, and State and Private Forestry activities

The National Forests and Grasslands provide a significant portion of habitat for our Nation's rare and at-risk species:

- Some 425 threatened and endangered species and 3,250 designated sensitive species use, and many depend upon, National Forest System (NFS) land habitats for their recovery and conservation. For many of these species, the quality of NFS land habitats will determine their future.
- These 3,675 TES species that are of sustainability concern on NFS lands represent 28% of the nearly 13,000 "at risk" species tracked by state Natural Heritage Programs and NatureServe in the U.S.,
- We know much ecological and management information about these species and of the types of management actions needed for their conservation. Each year, from 1,200 to 1,500 separate projects to benefit TES species and their habitats are done on National Forests and National Grasslands.
- Because many people are keenly interested in TES species, and strong laws exist that govern their protection, conservation and recovery, the Forest Service considers management involving TES species to be one of the most important activities it does to implement its mission.

The Forest Service TES Habitat Management Program contributes substantially to achieving goals and objectives of the Forest Service Mission, which is to "sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations". For more information on the Forest Service Mission, visit:

http://www.fs.fed.us/plan/par/2003/final/html/mda/exist_priorities.shtml

For more information on the Forest Service TES Habitat Management Program, visit:

<http://www.fs.fed.us/biology/tes/index.html>

To view our Partnership Report, see:

<http://www.notes.fs.fed.us:81/wo/wfrp/WFWPartnerships.nsf>

To view our WFRP-MS Accomplishments and Opportunities databases see:

<http://www.fs.fed.us/biology/managementsystem/index.html>

TES MANAGEMENT BUDGET TRENDS

Table 1 provides information on the combined Wildlife, Fish, and TES habitat management budgets (NFWF funds), from FY 1995 to the FY 2008 proposed President's Budget. The cost of fully implementing identified TES opportunities in FY 2008 with current staffing is estimated to be at least \$47 million (see Table 2).

Table 1. Combined Wildlife, Fish, and Threatened, Endangered and Sensitive Species Budget (NFWF) Trends from FY95 to FY08; and TES (NFTE) Budget trends from FY95 to FY06; and Field-identified TES Opportunities for FY02 to FY08.

YEAR	<u>NFWF</u> FUNDING (\$millions)	<u>NFTE</u> FUNDING & OPPORTUNITIES (\$millions)
1995	99	25
1996	86	22
1997	86	22
1998	97	26
1999	100	27
2000	109	27
2001	129	24 <u>NFWF</u> used; (end of a separate NFTE "EBLI" code)
2002	132	24 NFWF used; 60 had been reported as TES Opps.
2003	133	29 NFWF used; 49 had been reported as TES Opps.
2004	136	27 NFWF used; 45 had been reported as TES Opps.
2005	135	28 NFWF used; 42 had been reported as TES Opps.
2006	133	33 NFWF used; 34 had been reported as TES Opps.
2007	131 [©]	Work in progress; 38 has been reported as TES Opps.
2008	117 [*]	40 [#]

[©] Expected FY07 Budget

^{*} Proposed FY08 President's Budget

[#] FY08 TES Opportunities reported by Field; minimum amount due to underreporting

TES species/habitat conservation and recovery opportunities exist for all TES species, and FY 2008 projects have been identified to benefit several hundred of these species. The relative species group emphasis by category of TES species is given in Table 2. Examples of some federally listed species recovery needs and opportunities on the National Forests and Grasslands are given in Table 3.



Table 2. FY 2008 TES Program Opportunities identified by Field
(millions of dollars, and percent by species group)

	FY 2008 Opportunities
Total Field Identified TES Program Opportunities	\$40
Total Estimated TES Program Opportunities, due to known underreporting by Field	\$47
Of this total, percent of project opportunity NFWF funds that would <u>primarily</u> benefit T&E species, Sensitive species, and targeted species groups.	
T&E Species	44%
Plants	6%
Invertebrates	2%
Fish	20%
Reptiles and Amphibians	2%
Mammals	24%
Birds	45%
Sensitive Species	56%
Plants	20%
Invertebrates	1%
Fish	17%
Reptiles and Amphibians	14%
Mammals	21%
Birds	26%

Table 3: FY 2008 Opportunities for Selected T & E Species

Federally Listed Species	2008 NFWF Funds Needed (\$thousands)	Acres to Restore	Structures	Monitoring Plans	Admin. Studies
Red-cockaded Woodpecker	4,735	62,436	1,322	8	2
Bald Eagle	2,851	37,302	179	17	5
Canada Lynx	1,655	17,855	15	9	5
Bull Trout	1,652	*	0	1	5
Gray Wolf	1,582	24,735	25	7	2
Indiana Bat	1,444	3,662	25	7	3
Grizzly Bear	1,371	24,645	150	4	2
Kirtland's Warbler	1,122	2,400	20	1	0
Louisiana Pearlshell Mussel	1,048	32,604	150	3	0
Louisiana Black Bear	1,030	32,604	150	3	0
Salmon & Steelhead	1,000	**	0	3	2
Virginia Big-eared Bat	867	2,385	0	3	1
<i>Echinacea laevigata</i>	853	7,000	0	2	0
Northern Spotted Owl	849	8,639	0	1	2
<i>Trifolium stolonifera</i>	806	600	0	2	1
Flatwoods Salamander	790	6,502	0	1	0
<i>Lindera melissifolia</i>	728	6,502	0	1	0
<i>Schwalbea americana</i>	727	6,502	0	1	0
Woodland Caribou	716	292,790	0	0	0
W. Virginia Northern Flying Squirrel	701	670	30	2	1
Gopher Tortoise	545	12,500		0	0

* Hundreds of miles of bull trout stream habitat have been proposed for restoration.

** An estimated 150 miles of salmon and steelhead river habitat have been proposed for restoration.

For perspective, Table 4 displays a summary of national FY 2006 TES accomplishment information, as well as the types of the work that can be done and NFWF investments needed for FY 2008. In addition, much TES habitat restoration, monitoring, studies, analysis and conservation planning has been done, and will be done, through projects that have Wildlife, Fisheries, and NatureWatch Program resources as primary objectives.

Table 4: TES FY 2006 Accomplishments and FY 2008 Opportunities

TES Program	TES Accomplishments			TES Opportunities
	FY 2006			FY 2008
Type of Accomplishment	Partnership Projects	Non-Partnership Projects	Total	Opportunities
Total projects	552	821	1373	491
Total Forest Service NFWF \$\$ (millions)	\$ 6.2	\$ 27.1	\$ 33.3	\$40
Total Forest Service other BLI \$\$ (millions)	\$ 16.9	\$ 14.2	\$ 31.1	TBD
Total Partnership \$\$ contributed (millions)	\$ 10.9	NA	\$ 10.9	TBD
Miles of Stream Restored	361	264	625	544
Acres of Lake Restored	1,638	621	2,259	182
Acres of TES Terrestrial Habitat Restored	169,707	78,254	247,961	451,351
Structures Accomplished	1,067	1,307	2,374	5,106
Miles of Stream Inventoried	2,412	636	3,048	1,255
Acres of Lake Inventoried	222,838	31,803	254,641	37,120
Acres of TES Terrestrial Habitat Inventoried	4,269,852	2,018,779	6,288,631	5,282,546
Monitoring Plans	103	81	184	176
Administrative studies	119	16	135	100

PARTNERSHIPS



By emphasizing partnerships, the Forest Service strives to leverage public and partner dollars to increase capability accomplish the TES species and habitat conservation responsibilities and opportunities.

About one-third of the TES program is typically accomplished through partnerships. Many partnership projects focus on managing important TES species habitats, as well as developing and supporting effective outreach programs to teach the values of the natural world and how to conserve species and habitats for current and future generations. In FY 2006 over \$6.2 million NFWF federal funds were used with \$10.8 million of partner funds and in-kind contributions to accomplish 552 partnership projects on the National Forests and Grasslands. These partnerships were done with 539 unique partners with Forest Service personnel primarily at the local level (Ranger District, National Forest/Grassland), and also at the Regional and National levels.

In addition to these TES partnership projects, \$27.1 million NFWF dollars and \$14.1 million of other Forest Service funding were invested in FY 2006 to accomplish 821 non-partnership projects on the National Forests and Grasslands.

Table 5: Numbers of Threatened and Endangered Species, and designated Sensitive Species, by taxonomic group, that occur on National Forest System lands or are potentially affected by NFS management.

TAXONOMIC GROUP	T&E Species	Sensitive Species	TAXONOMIC GROUP	T&E Species	Sensitive Species
1. PLANTS	170	2,198	7. FISHES	89	179
2. AMPHIBIANS	9	80	8. INSECTS	11	213
3. ARACHNIDS	1	18	9. MAMMALS	39	91
4. BIRDS	30	102	10. REPTILES	11	66
5. CLAMS/ MOLLUSCS	50	196	11. OTHER INVERTEBRATE	7	47
6. CRUSTACEANS	8	60	TOTALS	425	3,250

Examples of the 491 TES Project Opportunities Proposed for FY 2008

These are just a few of the many TES Program opportunities identified by field personnel to implement in FY 2008, if funding is available. Field personnel have identified more than 140% of TES conservation work done in FY 2006 that can be done next year IF funding is available. In addition, many TES species and habitats will benefit from numerous of the other proposed Wildlife, Fisheries and NatureWatch Program project opportunities that have been identified for FY 2008.

Dusky Canada Goose Nest Island Improvement

The dusky Canada goose breeds only on the Copper River Delta. Habitat and predator composition changes related to the 1964 earthquake have caused a dramatic decline in dusky populations. These birds winter in Oregon with similar subspecies, and efforts to manage these other subspecies are hindered by the status of the dusky population. The objective of this program is to increase nest success of dusky Canada geese. Increasing nest success will help stabilize the population and minimize management issues. By installing artificial nest islands on ponds, we can provide isolated nesting sites that are safe from mammalian predators. Chugach National Forest, Alaska.

Peale's Peregrine Falcon Assessment

Peale's peregrine falcons nest in cliffy areas around eastern Prince William Sound and the Gulf of Alaska. While these birds are commonly reported, knowledge of their nesting sites is spotty. We will survey coastlines and search for known databases from the Alaska Department of Fish and Game and United States Fish and Wildlife Service. This will allow us to document known distribution of nesting falcons. We will also conduct a GIS modeling exercise to predict where these birds should be found. These areas will then be searched. We will produce a map of known and expected locations for nesting peregrine falcons. Such a database would facilitate permitting in coastal areas. Chugach National Forest, Alaska.

Indiana Bat Hibernaculum Monitoring

Continue monitoring the first Indiana bat hibernaculum located on the Hoosier National Forest. Three temperature monitors were installed at various locations in the cave, and one was installed outside the cave. In addition, two visitation monitors were installed to document human use within the cave. Year-round temperature and visitation information will be collected within the cave and temperature will also be collected outside the cave. This information

will be used to monitor influences on the hibernating Indiana bats. Hoosier National Forest, Indiana.

Lake Sturgeon Restoration - Manistee River

Restore lake sturgeon to the lower Manistee River. Augment streamside rearing program to produce larger sturgeon for release into the Manistee River. Enhance sturgeon spawning habitat in the Manistee River. Increased survival of young-of-the-year sturgeon, increased sturgeon spawning and subsequent recruitment to Manistee River population. Huron-Manistee National Forest, Michigan

Sensitive plant monitoring

Monitor presence/absence and long-term population trends of sensitive plant species. Known element occurrences are monitored for presence/absence and abundance. White Mountain National Forest, New Hampshire.

Habitat Restoration to Benefit Smooth Coneflower and Associated Species

Restore habitat for the federally listed smooth coneflower and associated species. Aid in the recovery of the coneflower and contribute to viability of the sensitive species. Prescribed burning and thinning and/or removal of encroaching vegetation. Planting of local genetic stock into the sites once habitat is restored. Increase of the coneflower and other associated species and community components. Increase in nectar plants for the Diana fritillary butterfly that has been observed in these sites utilizing the plants. Chattahoochee and Oconee National Forests, Georgia.

RCW Cluster Maintenance

Maintain RCW clusters and trees to meet the requirements of the revised Recovery Plan. Maintain an accurate inventory of trees and clusters and their status. Field examination of trees, maintenance/installation of inserts, restrictor plates, snake or squirrel excluders, etc. National Forests in Florida, Florida.

Aquatic PETS Survey/Monitoring/Program Management Opportunities

Continue work on surveys of PETS fish and mussels, including focusing work on the leopard darter (T) and the Ouachita darter (undescribed form of longnose darter) and mussel surveys in two small watersheds that haven't been resurveyed in the past 20+ years. This project also covers the administration/program management of the Aquatics TES program on the Forest. Standard mussel surveys would be conducted on the Cossatot and western Saline Rivers and then monitoring work on several other systems as follow up on surveys conducted about 10 years ago. Standard stream surveys and snorkeling surveys for the leopard and Ouachita darters would continue which will be the 17th consecutive joint survey with the FWS for the leopard darter. Genetics would be conducted on two tributary populations and the main stem river population of leopard darters to determine genetic supplementation needs for the Forest's Buffalo Creek population of leopard darters which are isolated by Broken Bow Reservoir. In addition, work would continue on leopard darter culture and introductions. Funding at this level would allow the Forest to be fully engaged with the scientific community and affected state and other federal agencies to manage aquatic PETS species. Ouachita National Forest, Arkansas.

Deschutes NF Spotted Owl Monitoring and Telemetry Study

Conduct wide-scale monitoring of both historic and unoccupied spotted owl habitat to determine how pairs/activity centers shifted or disappeared in light of the 2002/2003 fire seasons where approximately half the existing habitat on the Forest was destroyed. In addition, a telemetry study would be initiated in the Davis LSR to determine if owls are foraging in treated areas (understory thinning and fuels treatments primarily). Follow the established Regional protocol by hiring seasonal crews to conduct the survey and telemetry work. Historic activity centers in addition to unoccupied habitat will be surveyed. Resident birds will be fitted with radios and followed to determine areas of use. Monitoring will result in a better understanding of how fire affected the pairs on the east-side of the Cascades. It will show differences between fire severity, quality of habitat, and may reveal new sites in which to protect. The telemetry study will indicate if there is a need to modify treatments in order to meet both foraging needs of the owls and risk reduction.

Deschutes National Forest, Oregon.

Dunal Habitat Enhancement Opportunity

Provide a healthy coastal dune system that can support native plant and animal species. Eradication of European beachgrass and planting of pink sand verbena starts and seeds. Increased numbers of nesting and wintering western snowy plovers and larger areas in which pink sand verbena can be found. Siuslaw National Forest, Oregon.

California Red-legged Frog Monitoring

Continual collection of baseline data in San Francisquito Creek/Canyon for the status and distribution of the California red-legged frog. US Fish and Wildlife Service protocol surveys to assess egg mass production, tadpole survival and condition, and population status of adult California red-legged frogs. Work to be accomplished with USGS under an Interagency Agreement. Continuing effort to establish baseline conditions of the California red-legged frog in San Francisquito Creek/Canyon from which population trend data can be ascertained. Angeles National Forest, California

Forestwide weed removal on FS lands adjacent to Rec Residences

Forestwide mechanical weed removal on Forest Service managed lands adjacent to Recreation Residences. Habitat improvement in riparian areas with habitat for Santa Ana sucker, Arroyo chub, Santa Ana speckled dace, southwestern willow flycatcher, least Bell's vireo, and various plant species. Habitat improvement in riparian areas with habitat for Santa Ana sucker, Arroyo chub, Santa Ana speckled dace, southwestern willow flycatcher, least Bell's vireo, and various plant species to further species success on Forest. Angeles Nat, California.

Native Grass Seed Collection and Propagation

Collect native seed from the forest for propagation at a local nursery. Seed and/or plugs from the nursery will then be used for restoration, rehabilitation and revegetation after projects. Inventory areas for suitable native grass seed collection. Collect native seed on Forest. Develop a partnership with local nursery to propagate grass/collect seed. Stockpile seed and use for restoration, rehabilitation and revegetation projects. Stored seed is to be used on restoration projects. Klamath National Forest, California

Lake Tahoe Basin Mountain Yellow-legged Frog brood stock program

A number of partners would be utilized, such as FWS, CAFG, Lake Tahoe Unified School District, and UC Berkley to ensure sound scientific genetic practices as well as consistency with overall goals of mountain yellow-legged frog expansion into historic habitats. Mountain yellow-legged frog populations are expected to expand by utilizing pure genetic stock, which is expected to be readily available from Tallac Creek. Lake Tahoe Basin Management Unit, California.

Paiute Cutthroat Trout Recovery Project

To restore the Paiute cutthroat trout into its entire historic range for eventual delisting as a federally-listed threatened species and to evaluate the response of aquatic macroinvertebrates to the chemical treatment of rotenone in Silver King Creek. The California Department of Fish and Game, in cooperation with the U.S. Fish and Wildlife Service, and the Humboldt-Toiyabe National Forest, plan to use rotenone to chemically eradicate non-native trout from Tamarack Lake, Silver King Creek, and associated tributary habitat between Llewellyn Falls and Snodgrass Creek. The entire project area occurs within the Carson Iceberg Wilderness. Paiute cutthroat trout, Yosemite toad, Mountain yellow-legged frog, and macroinvertebrate surveys will occur throughout the entire Silver King Creek watershed. Selected physical and chemical characteristics will be measured to describe sample site characteristics, and assure similarity of habitat among sites. This is the highest priority project identified in the Revised Paiute Cutthroat Trout Recovery Plan that will lead to the eventual delisting of this species. The U.S. Fish and Wildlife Service is the lead agency for this project and they are in the process of conducting an Environmental Impact Statement. Implementation of this project is planned for FY 2007. Macroinvertebrate sampling will show abundance and diversity of macroinvertebrates is high and that using rotenone to enhance Paiute cutthroat trout habitat will not have a significant impact on macroinvertebrates. This will be the fifth year of baseline macroinvertebrate surveys. Humboldt-Toiyabe National Forest, Nevada.

Clay Phacelia Introduction - Year 4

To contribute toward the recovery of viability for the Clay phacelia, by creating new populations on the Uinta National Forest. We plan to start planting clay phacelia seedlings on one to three sites on the Forest, starting about April, 2007. We expect to have the planted biennial phacelias flower, set seed and then die in summer of 2007. With luck and care the planted phacelias, through the seeds they produce, should start a self-sustaining population on each site. Uinta National Forest, Utah.

Mexican Spotted Owl PAC Monitoring

The purpose of the project would be to obtain current information on Mexican spotted owl Protected Activity Center (PAC) occupancy and reproductive success within the Coronado National Forest. Surveys using standardized methodology: daytime visits to roosts/nest sites, nighttime calling surveys to establish presence, follow-up visits to establish pair occupancy, and reproductive visits to determine number of young. Forest-wide determination of Mexican spotted owl PAC occupancy and reproductive success. (output will be in number of PACs monitored, not acres). Coronado National Forest, Arizona.

Forest-wide Small Mammal Inventory

Conduct a small mammal inventory for sensitive species on the Forest. Perform surveys on historic sites and within suitable habitat to determine occurrence and distribution on the Forest. The project proposes to inventory about 750 acres of potential habitat at selected locations across the Forest. Surveys will be conducted at know historic sites to detect the identity and presence of the species in the area. The project will identify the extent of sensitive species across the Forest. Santa Fe National Forest, New Mexico.

Sweetwater Harrington Penstemon Restoration

Cut juniper encroachment on 40 acres of sagebrush that is supporting the only known population of Harrington Penstemon on FS lands in the Sweetwater drainage. Chain sawing and piling of conifer encroachment. Some pile burning of slash would be done with fuels monies. The intent is that this project will be incorporated into an upcoming 1540 acre wildlife habitat improvement/fuel reduction project that includes prescribed fire in mountain shrubland communities and mechanical treatment of conifers. The treatments will also improve forage conditions on elk and deer winter range. It is anticipated that RMEF, HPP, wildlife, and fuels will all partner in this project. The 40 acres of treatment addressed by this proposal would be part of the matching NFWF monies for the entire project. The NEPA has been completed for all this work. Maintain the sagebrush habitat by setting back 80 years of conifer encroachment due to the lack of wildfires. White River National Forest, Colorado.

Furbearer Survey

Conduct surveys for lynx and pine marten on high priority areas of the Forest. Conduct protocol surveys of American marten and Canada lynx and place informational signs out to public to produce an inventory of furbearers and their habitat on the Forest. Grand Mesa, Uncompahgre, and Gunnison National Forests, Colorado.

Caribou Augmentation

Caribou augmentation and maternity penning. Project would be primarily responsibility of the British Columbia Ministry of Environment. Caribou would be captured from northern stable population and released into maternity pens. Following successful calving, animals would be released into ecosystem. Experience in Alaska and Yukon had increased calf survival from 5 to 80 percent. Maternity pens would be constructed within ecosystem and within suitable late winter habitat. Pregnant female caribou (10 to 20 animals), which would be captured from northern stable herds, would be placed into maternity pen (1.5 acres per animal) until after calving. FS along with USFWS, WDFG and IDFG would provide logistic and technical assistance to British Columbia. Augmentation with maternity penning would provide increase population numbers and increase population resilience to random events and environmental variables. Idaho Panhandle National Forests, Idaho.

Kootenai National Forest Grizzly Bear Habitat Improvements

Enhance grizzly bear core habitat and habitat quality. This project will include road closure, decommissioning and noxious weed control in order to increase the acres of grizzly bear core habitat. Native plant food sources will be improved where noxious weeds are removed. Kootenai National Forest, Montana.

20 February 2007